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Video Abstract

Unedited microneurosurgery of a pineal region neuroepithelial cyst

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Abstract

Background: Neuroepithelial cysts are benign, well-circumscribed, nonenhancing CSF-like masses that might virtually present in any intracranial location. Common locations are the frontal lobe, thalamus, midbrain and pons, vermis, the lateral and fourth ventricles, and the choroid fissure (Choroid fissure cysts). Usually asymptomatic, cysts in the posterior fossa have been reported to cause cranial nerve palsies, focal brainstem dysfunction, and hydrocephalus. Supratentorial cysts might cause seizures or focal motor and/or sensory deficits. Histopathological examination reveals that neuroepithelial cysts are lined by ependymal (columnar epithelium) or choroid plexus cells (low cuboidal epithelium). The differential diagnosis includes enlarged perivascular spaces, infectious cyst-neurocysticercosis, porencephalic cyst, and arachnoid cyst.

Case Description: A patient with a symptomatic histologically confirmed pineal region neuroepithelial cyst underwent park bench position and a right supracerebellar infratentorial approach. The pineal region was accessed over the right cerebellar hemisphere and the lesion was identified after a lateral opening of the quadrigeminal cistern. After a careful dissection of the lesion, the cyst was pulled out with long ring microforceps and long sharp bipolar forceps; both assisted by a thumb-regulated suction tube. A complete lesion was removed in a piece and meticulous attention was paid to any bleeding securing complete hemostasis of the surgical site. The postoperative course was uneventful. The patient underwent rehabilitation without recurrence of the lesion.

Conclusion: This unedited video offers all detailed aspects that a neurosurgeon as the senior author JH considers essential when performing an efficient and safe surgery into the pineal region for this very rarely documented pineal region neuroepithelial cyst.

Videolink: <http://surgicalneurologyint.com/video-gallery/pineal-cyst-4>

Key Words: Neuroepithelial cyst, pineal region, sitting position, supracerebellar infratentorial approach, unedited microsurgical video

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